

WHAT IS CLAIMED IS:

- 1 1. A method for recoverable programming, comprising the steps of:
  - 2 identifying a predetermined instruction sequence;
  - 3 monitoring for memory access errors;
  - 4 logging a memory access error in an error logging register;
  - 5 polling the register for any logged memory access error during execution of the
  - 6 instruction sequence; and
  - 7 raising exceptions, if the memory access error is logged.
- 1 2. The method of claim 1, further comprising the steps of:
  - 2 checkpointing a predetermined set of system data; and
  - 3 recovering from the memory access error using the checkpointed system data, if
  - 4 the memory access error is logged during execution of the instruction sequence.
- 1 3. The method of claim 1, further comprising the step of:
  - 2 setting data returned in response to the memory access request equal to a set of
  - 3 predefined fake data, if the memory access error is logged during execution of the
  - 4 instruction sequence.
- 1 4. The method of claim 3, further comprising the step of:
  - 2 skipping the polling and raising steps if the data returned in response to the
  - 3 memory access request is not equivalent to the predefined fake data.
- 1 5. The method of claim 1, further comprising the step of:

2           masking a machine check abort handle.

1    6.     The method of claim 5, after the raising step, further comprising the steps of:  
2           enabling the machine check abort handle.

1    7.     The method of claim 1, further comprising the step of:  
2           updating pointers, if the memory access error is logged.

1    8.     The method of claim 1, further comprising the step of:  
2           re-executing the memory access request, if software so commands.

1    9.     A method for recoverable programming, comprising the steps of:  
2           identifying a predetermined instruction sequence;  
3           checkpointing a predetermined set of system data;  
4           masking a machine check abort handle;  
5           monitoring for memory access errors;  
6           logging a memory access error in an error logging register;  
7           polling the register for any logged memory access error during execution of the  
8    instruction sequence;  
9           raising exceptions, if the memory access error is logged;  
10          updating pointers, if the memory access error is logged;  
11          recovering from the memory access error using the checkpointed system data, if  
12    the memory access error is logged during execution of the instruction sequence.;  
13          re-executing the memory access request, if software so commands; and

14 enabling the machine check abort handle.

1 10. A computer-usable medium embodying computer program code for commanding  
2 a computer to perform recoverable programming, comprising the steps of:  
3 identifying a predetermined instruction sequence;  
4 monitoring for memory access errors;  
5 logging a memory access error in an error logging register;  
6 polling the register for any logged memory access error during execution of the  
7 instruction sequence; and  
8 raising exceptions, if the memory access error is logged.

1 11. The medium of claim 10, further comprising the steps of:  
2 checkpointing a predetermined set of system data; and  
3 recovering from the memory access error using the checkpointed system data, if  
4 the memory access error is logged during execution of the instruction sequence..

1 12. The medium of claim 10, further comprising the step of:  
2 setting data returned in response to the memory access request equal to a set of  
3 predefined fake data, if the memory access error is logged during execution of the  
4 instruction sequence.

1 13. The medium of claim 13, further comprising the step of:  
2 skipping the polling and raising steps if the data returned in response to the  
3 memory access request is not equivalent to the predefined fake data.

1 14. The medium of claim 10, further comprising the step of:  
2 masking a machine check abort handle.

1 15. A system for recoverable programming, comprising:  
2 means for identifying a predetermined instruction sequence;  
3 means for monitoring for memory access errors;  
4 means for logging a memory access error in an error logging register;  
5 means for polling the register for any logged memory access error during  
6 execution of the instruction sequence; and  
7 means for raising exceptions, if the memory access error is logged.

1 16. The system of claim 15, further comprising:  
2 means for checkpointing a predetermined set of system data; and  
3 means for recovering from the memory access error using the checkpointed  
4 system data, if the memory access error is logged during execution of the instruction  
5 sequence..

1 17. The system of claim 15, further comprising:  
2 means for setting data returned in response to the memory access request equal to  
3 a set of predefined fake data, if the memory access error is logged during execution of the  
4 instruction sequence.

1 18. The system of claim 17, further comprising:

2 means for bypassing the means for polling and means for raising if the data  
3 returned in response to the memory access request is not equivalent to the predefined fake  
4 data.

1 19. The system of claim 15, further comprising the step of:  
2 means for masking a machine check abort handle.

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